



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/540,587

06/25/2005

Andrzej Pietrzyk

3541

24271 7590 12/30/2008
JOHN ALEXANDER GALBREATH
2516 CHESTNUT WOODS CT
REISTERSTOWN, MD 21136

EXAMINER

SRIRAMAN, NIKHIL

ART UNIT

PAPER NUMBER

3664

MAIL DATE

DELIVERY MODE

12/30/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/540,587

Applicant(s)

PIETRZYK, ANDRZEJ

Examiner

NIKHIL SRIRAMAN

Art Unit

3664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date May 30, 2007
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This is a non-final Office Action on the merits in response to communications filed by Applicant on June 25, 2005. Claims 1-10 are pending and have been addressed below.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.

- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

3. 35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are:

Page 2, line 25 recites "angels of reflection"

Page 2, line 33 states ",,Self-Assembling".

Page 4, line 23 recites "exciting signals".

Page 3, line 20-22 recites "The plate is divided into four zones and every second of them is connected", where it unclear what "second" is conveying.

Page 3, line 23 recites "earthed", which appears intended to state "grounded".

Page 7, line 12 recites "system, viz. to a loose" where it is unclear what "viz." means.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement and the enablement requirement. What has been disclosed does not set forth with sufficient specificity what invention the Applicant possesses. Further, based on what subject matter is disclosed, it is not done so in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the claimed invention.

Regarding claim 1, a person of ordinary skill in the art at the time of invention would not have been enabled to make or use an invention consisting of a system with a plurality of single solid elements that decides (line 25) to connect together or disconnect itself by polarizing the walls of its elements and transferring the coordinates and a running number of each element to every other element.

Further, Examiner requests a working model of the claimed invention, a video, or some other exhibit providing as evidence to show possession and enablement of the claimed invention.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

At the outset, it is suggested to Applicant that the claim format consist of a preamble, transitional phrase and claim body so that Examiner can determine the metes and bounds of the invention.

For clarity, the word "limitation" will be a generic term for referring to any particular claim feature, while the word "element" will refer to the claimed "element" as recited in claims 1, line 1, 6, 7 and 9-10.

Regarding claim 1, line 2 recites "single solid elements", line 6 recites "linking respective single elements" and line 7 recites "a single element of the system". It is unclear if these limitations, or any of the other limitations with the word "element", are intended to be the same or distinct limitations. The similarity in terminology would tend to indicate so, but the antecedent basis indicates otherwise.

Further regarding claim 1, lines 7-9 state "a single element of the system have magnetic polarization depending on the programmed position of the single element". Lines 10-12 state "at the same time, in the active state of a single element, the walls of the casing of a single element of the system have different magnetic polarization". Lines 12-14 state "whereas in the inactive state of a single element, the walls of the casing of single element of the system have identical magnetic polarization".

It is unclear what the relationship is between the "active state" of the element and "the inactive state". One interpretation is that sole difference between states is the casing polarisation, whereas another is that casing polarisation is one of a plurality of differences between the active or inactive states.

It is also unclear how all of the wall's magnetic polarization can be identical if such charge is dependent upon location, since no two elements could simultaneously occupy the same space.

It is also unclear what is being conveyed by the phrase "in the active state of a single element, the walls of the casing of a single element of the system having a different magnetic polarization". This phrase could be interpreted to mean that each wall of a single element has a polarity differing from another wall on the same element, leading to multiple polarizations within a single element. Alternatively, this could be interpreted to mean all of the walls within a single element have the same polarizations, which is a value that differs from the polarizations of the walls of a second distinct active element. Yet a third interpretation is that the polarization is different between the walls of the active and inactive elements.

Further regarding claim 1, line 15 recites "information about a virtual object (10) and information on the successive running number (13) in the real structure (9) of the inactive single element of the system being connected is transmitted from an active single element of the system to the memory of the integrated circuit (1) of the inactive single element of the system," It is not understood how information about the inactive single element is transferred from the active single element to the inactive single element. It seems as though the inactive single element would have information about itself, which it would need to transmit to the active element.

Yet further regarding claim 1, lines 16-17 recite the term "successive running number in the real structure of the inactive single element". It is unclear what the relationship is between the particular single element and its successive running number. One interpretation is that each and every element is assigned a successive running number. An alternative interpretation is that only elements that become part of the real

structure are assigned a successive running number when they become part of the real structure. Moreover, it is unclear if there is a one-to-one correspondence between a unique successive running number and a unique element.

Yet further regarding claim 1, line 21 recites "the casing of a given single element", where it is unclear if this is referring to a new element or a previously introduced "element". If it is referring to a previously introduced "element", it is unclear if that element is active, inactive, both, or neither.

Yet further regarding claim 1, lines 20-22 recite "sets of co-ordinates of the walls of the casing of a given element of the system are assigned to the running numbers of single elements of the system". It is unclear how an element is aware of its coordinates or from where the coordinate information is acquired.

Yet further regarding claim 1, lines 22-23 recite "the set of those data" where it is unclear what data is being referred to.

The claims are replete with limitations possessing improper antecedent basis. The foregoing examples are intended merely as illustrative and not as exhaustive. It is incumbent upon Applicant to identify and correct such defects.

8. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Claim Rejections - 35 USC §102 and 103

9. The claims in their current form are so indefinite that an art rejection cannot be made because the scope of the claimed invention is so unascertainable. As result of such indefiniteness, the patentability of the invention as disclosed cannot currently be determined.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Roufas et al. (6,842,246 B2) discloses an alignment system with a plurality of modules with emitters that processes offset information to achieve a desired alignment.

Hogg et al. (6,725,128 B2) discloses a self-reconfigurable robot comprised of a plurality of modules with six faces.

Shen et al. (6,636,781 B1) discloses a system and technique for distributed control and coordination of autonomous agents of a system.

Merkle et al. (6,510,359 B1) discloses a method and system for self-replicating manufacturing stations.

Tymes (6,487,454) discloses a programmable-shape array made up of a number of devices that adjust their position/orientation to one another.

Bennett, III et al. (6,477,444 B1) discloses a method for the automated design of decentralized controllers for modular reconfigurable robots.

Bennett, III et al. (6,459,957 B1) discloses a smart programmable membrane that performs a sorting, filtering and absorbing function and includes a plurality of module units disposed adjacent one another.

Yim et al. (6,233,502 B1) discloses a system for transiently connecting modular elements of a self-movable robot.

Yazaki et al. (5,210,821) discloses a control for a group of robots wherein a plurality of control units are connected in a hierarchical structure.

Kretzschmar (2005/0118925 A1) discloses a construction kit with magnetic elements that combine with a magnetic bond.

Lazerman (2002/0115373 A1) discloses a modular structure that uses magnets and electron magnets to maintain a particular element position.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NIKHIL SRIRAMAN whose telephone number is (571)270-5797. The examiner can normally be reached on Monday through Friday, 7:30am-5:00pm, with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Khoi Tran can be reached on 571-272-6919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NIKHIL SRIRAMAN
Examiner
Art Unit 3664

N.S.
/KHOI TRAN/
Supervisory Patent Examiner, Art Unit 3664